

TALOS

Tactical Awareness & Land Operating System

FEATURES

MIL-STD-2525D / APP-6D Symbology

9 Data-Agnostic Connectors

GVA Display Extension Spec v1.1

TAK Ecosystem (ATAK/WinTAK/iTAK)

SAPIENT BSI Flex 335 v2.0

Cambridge Pixel RADAR Integration

ADS-B Aircraft Tracking

AIS Maritime Vessel Tracking

NMEA GPS Support

GTFS Public Transit Feeds

DDS GVA Land Data Model v10

Offline Map Tile Caching

GeoChat & File Transfer

KML, GeoJSON, GPX Import

Multi-Region Configurations

Plugin Connector Architecture



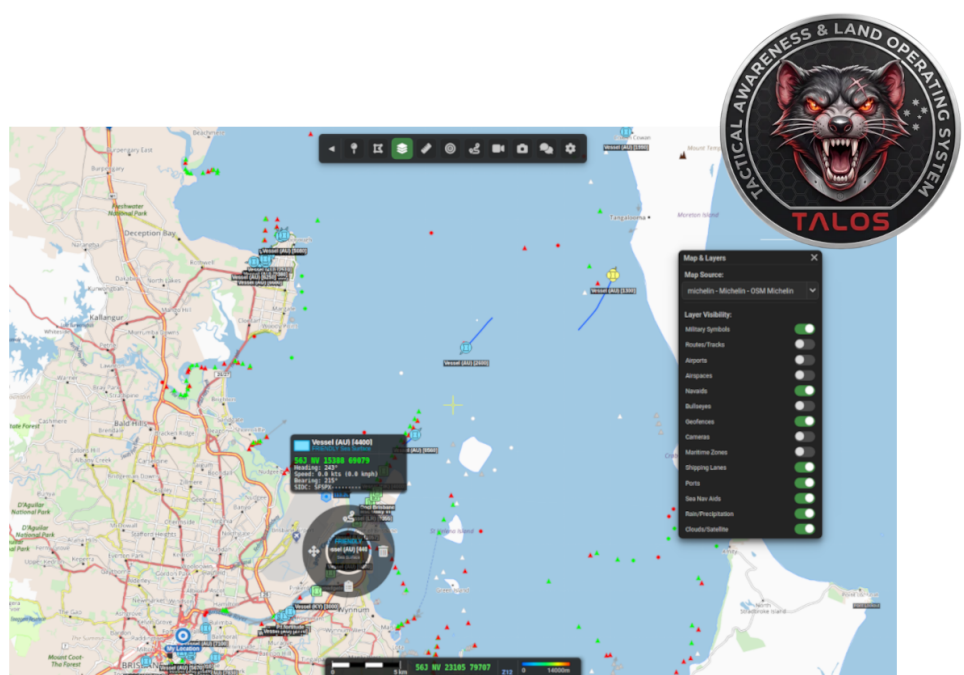
MADE IN AUSTRALIA

TALOS is a comprehensive tactical mapping and situational awareness application providing full **Battlespace Management System (BMS)** capability for GVA (Generic Vehicle Architecture) platforms. Designed for land vehicle crews, command posts and dismounted operators, TALOS transforms raw sensor data from multiple domains into an actionable common operating picture — enabling faster decision-making at every echelon.

Operating as both a third-party extension to the GVA HMI and as a stand-alone tactical display, TALOS delivers real-time multi-domain situational awareness through its **data-agnostic connector architecture** — fusing military, aviation, maritime, RADAR and transit data sources into a single unified map view. Nine independent data connectors run simultaneously, each with automatic reconnection and health monitoring, ensuring continuous operation even on degraded networks.

Multi-Domain Awareness: TALOS simultaneously renders MIL-STD-2525D / APP-6D military symbology, ADS-B aircraft tracks, AIS vessel positions, Cambridge Pixel RADAR contacts, SAPIENT autonomous sensor detections (BSI Flex 335 v2.0), NMEA GPS breadcrumb trails, and GTFS public transit feeds — all composited on the same map with offline tile caching for disconnected and DDIL (denied, disrupted, intermittent and limited bandwidth) operations. Operators can overlay KML, GeoJSON and GPX data, configure geofences, plot bullseyes and visualise camera fields-of-view.

TAK Ecosystem Integration: Full interoperability with ATAK, WinTAK and iTAK through Cursor on Target (CoT) XML and TAK Protobuf v2. Supports TAK Server connectivity with TLS certificate authentication, GeoChat messaging with chatrooms and direct messages, peer-to-peer file transfer with SHA-256 verification, and emergency 911 alerts. Team and role colour assignments propagate automatically across all connected TAK endpoints..



MULTI-DOMAIN SITUATION AWARENESS



FIND OUT MORE

Commercial Off The Shelf (COTS) and Modified Off The Shelf (MOTS) solutions for defence and aerospace.

Astute Systems is a global leader in rugged AI computing and software for autonomous military systems. Our GVA toolchain provides complete compliance with UK and Australian defence standards, delivering real-time battlespace management across land, sea, air and cyber domains.

DATA CONNECTORS

Cursor on Target (CoT XML / TAK Protobuf v2)

SAPIENT BSI Flex 335 v2.0 (Protobuf)

Cambridge Pixel SPX RADAR

NMEA 0183 GPS (Serial / TCP / UDP)

ADS-B Aircraft (OpenSky Network)

AIS Maritime (AISStream WebSocket)

GTFS Realtime (Protobuf)

JSON File Connector (with file watch)

DDS Land Data Model v10

SYMBOLOLOGY

MIL-STD-2525D / APP-6D

Full 20-character SIDC support

Friend, Hostile, Neutral, Unknown

Air, Land, Sea, Subsurface, Space

Interactive Point Dropper

Symbol breadcrumb trails

Radial context action menu

TAK INTEGRATION

CoT XML & TAK Protobuf v2

SA Multicast (239.2.3.1:6969)

TAK Server with TLS/cert auth

GeoChat messaging & chatrooms

Peer-to-peer file transfer (HTTP)

Emergency 911 alerts

Team/role colour assignments

MAP DISPLAY

ESRI Imagery / Street / Topo

OpenStreetMap / OpenTopoMap

CartoDB Dark / Positron

Custom tile sources (JSON config)

Local offline tile server

WGS84 & MGRS coordinates

OVERLAY LAYERS

Military symbols & routes

Airports with ATC frequencies

Controlled airspaces (CTR, TMA)

Navigation aids (VOR, NDB, DME)

Maritime zones (EEZ)

Shipping lanes & ports

Rain/precipitation radar

Cloud/satellite imagery

Geofences & bullseyes

Camera FOV wedges

DATA FORMATS

GeoJSON — geographic features

KML — points, lines, polygons

GPX — GPS tracks & routes

CSV — airports, frequencies

JSON — symbols & connector config

OPERATING MODES

Standalone tactical display

GVA HMI third-party extension

Multi-screen (BMS, WPN, STR)

PLATFORM REQUIREMENTS

Linux (Desktop / Embedded)

Qt6 (Core, Widgets, Network, WebSockets)

C++20 compiler, CMake 3.16+

GVA LDM v10 (DDS pub/sub)

Optional: Qt6 SerialPort, Protobuf

Optional: Astute DDS / CycloneDDS / RTI Connex

REGIONAL CONFIGURATIONS

Australia — 12+ GTFS feeds

UK & Ireland — airspaces, maritime

Custom — fully JSON configurable

COMMUNICATION

TAK GeoChat (broadcast & direct)

Peer-to-peer file sharing (HTTP)

Image/video with thumbnails

SHA-256 verification

500 MB configurable cache

EXTENSIBILITY

Plugin connector interface (Qt)

JSON-driven configuration

Custom map tile sources

OAuth2 & API key support

Sentinel Hub Process API

Specifications subject to change without notice.
GVA compliance requires land platform integration.

CONTACT YOUR LOCAL REPRESENTATIVE

FOR MORE INFORMATION ON HOW WE CAN ADAPT OUR SOLUTIONS TO MEET YOUR IO REQUIREMENTS

Australia: +61 0(7) 3555 5560 Email: sales@astutesys.com

astutesys.com